PONOMARENKO, Ye.D., assistent; MOROZOVA, M.N., inzhener; RENNE, V.T., prof., red.

[Concise laboratory manual on electric engineering materials]
Kratkoe rukovodstvo po laboratorii elektromaterialovedeniia.
Pod red. V.T.Renne. Leningrad, 1960. 34 p.   (MIRA 13:11)

1. Leningrad. Politekhnicheskiy institut.
        (Dielectrics)   (Electric resistors)

65853

SOV/81-59-21-76713

/5. 8000

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 21, p 490 (USSR)

AUTHOR: Ponomarenko, Ye.D.

TITLE: The Effect of the Sorption of Moisture on the Moisture and Electrical
             Properties of Plastics With Fillers

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1958, Nr 7,
             pp 31 - 40

ABSTRACT: The moisture absorption (M) and the change in the electrical
             characteristics of plastics with fillers caused by it have been in-
             vestigated. The investigations were carried out on specially prepared
             samples consisting of polystyrene and polyurethane as binding material
             (B) and the fillers (F): sawdust, quartz dust, talc, $CuSO_4$, $MgSO_4$,
             $CaSO_4$, at an F content of 10, 30 and 50% of the B weight. Every com-
             position contained only one F. For the preparation of the samples
             powder-like B and F were mixed, pressed in the form of disks of 100 mm
             in diameter and 1 mm thick, conditioned at 50°C and a pressure of
             0.01 mm Hg to constant weight. The conditioned samples were kept in
             an exsiccator at 50, 70, 80, 90 and 98% relative humidity and 20°C and

Card 1/3

65853

SOV/81-59-21-76713

The Effect of the Sorption of Moisture on the Moisture and Electrical Properties of Plastics With Fillers

with a relative humidity of 98% at 40°C. M was determined in the samples, the co-efficient of moisture penetrability was calculated according to Johnston, and the electric characteristics: specific volume resistance (ρ_v), the dielectric losses (tg δ) and the electric strength (E_{st}) were investigated. It has been established that the sorption of moisture by plastics with F is caused by the nature of B as well as by the nature and quantity of F. An increase in the moistening temperature causes an increase in the rate of moisture sorption, but does not affect the quantity of the sorbed moisture. The coefficient of moisture penetrability of plastics increases with the introduction of F, the stronger, the more polarized is B, but not more than by one order of magnitude. The temperature increase in the case of plastics with F causes a decrease in the coefficient of solubility of F and an increase in the diffusion coefficient. Diffusion proceeds more intensive, and there-fore the constant of moisture penetrability increases with the temperature increase. M of plastics with F is caused by the activated, capillary and osmotic diffusion, depending on the nature of F and the relative humidity of the medium. The rise of tg δ and the decrease of ρ_v and E_{st} of plastics, as a result of the absorption of

4

Card 2/3

65853

SOV/81-59-21-76713

The Effect of the Sorption of Moisture on the Moisture and Electrical Properties of Plastics With Fillers

moisture by them, are determined by the nature and the quantity of F. Based on the study conducted the conclusion is drawn on the expediency of introducing F into high-molecular substances of polar nature. The selection of F should be based on the moisture properties of F. In order to ensure good electrical properties of plastics the sorption capacity of F should be not higher than in B.

S. Shishkin

Card 3/3

POZDNYAK, N.Z., kand.tekhn.nauk, PONOMARENKO, Ye.K., inzh.

Investigation of cementite in iron-graphite alloys. Metalloved.
i term. obr. met. no.12:39-41 D '60.   (MIRA 13:12)
                    (Iron alloys—Metallography)

POZDNYAK, N.Z.; PONOMARENKO, Ye.K.

Investigation of cementite in iron-graphite parts. Porosh. met.
1 no.1:56-60 Ja-F '61. (MIRA 15:5)

1. Vsesoyuznyy zaochnyy politekhnicheskiy institut i Moskovskiy
zavod zamochnykh izdeliy.
(Cementite)
(Metal powder products)

S/123/62/000/003/013/018
A004/A101

AUTHORS: Pozdnyak, N. Z., Ponomarenko, Ye. K.

TITLE: Investigating the cementite in ferro-graphite parts

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 3, 1962, 46, abstract
             3B242. ("Poroshk. metallurgiya", 1961, no. 1, 56-60, English
             summary)

TEXT: The authors investigated the resistance to wear of bushes possessing
in their microstructure different amounts of structurally free cementite. The
guide bushes of the exhaust and suction valves of the "Moskvich-407" engine were
made of "Sulinskiy" iron powder to which 2 - 2.5% of copper powder and varying
amounts of "Tayginskiy" graphite were added. After bilateral pressing in
metallic detachable press molds on a hydraulic press of 100-ton capacity, the
porosity of the bushes amounted to 15 - 20%. Sintering was carried out at
1,150°C for 2 hours in a hydrogen medium and cooling in the chamber of a
furnace with water-cooled jacket. The tests of the bushes on the "Moskvich" car
during protracted runs showed that the reduction in wear depends on the increase
of the cementite content. During ordinary cooling in the chamber of a furnace

Card 1/2

Investigating the cementite ...

S/123/62/000/003/013/018
A004/A101

with water-cooled jacket, components with structurally free cementite in the form of ledeburite eutectic are obtained which are not very suitable. During partial cooling in the furnace from 1,150 - 1,200 down to 800 - 900°C, graphitized cementite is formed. High antifriction properties are obtained by bearings in whose structure is more than 25% graphitized cementite, particularly, if it is found in ferrite. Such bearings can be used under high specific pressures. There are 3 figures and 2 references.

N. Il'ina

[Abstracter's note: Complete translation]

Card 2/2

87036

S/129/60/000/012/008/013

E073/E235

18.6100

AUTHORS: Pozdnyak, N. Z., Candidate of Technical Sciences
and Ponomarenko, Ye. K., Engineer

TITLE: Investigation of Cementite in Iron-Graphite Alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
1960, 1960, No. 12, pp. 39-41

TEXT: During metallographic analysis of iron-graphite
hypereutectic sintered alloys it was found that the excess carbon
was in the form of cementite which was embedded in ferrite. Such
structures are softer than eutectic ones. In measuring the hard-
ness by means of a steel ball the ferrite provides a soft base for
the cementite reducing the resistance to indentation. Since this
structure corresponded to the rule of Charpy, it was decided to
study its anti-friction properties. For this purpose cylindrical
friction specimens, 40 mm dia, 10 mm high, with an internal dia
of 16 mm were produced (Amsler machine). The initial mixture
consisted of 10% fine electrolytic copper powder, 2.5% de-ashed
graphite and the rest - high grade iron powder. The mixture was
mixed for 5 hours in a mechanical mixer performing 60 r.p.m. The

Card 1/4

87036

S/129/60/000/012/008/013
E073/E235

Investigation of Cementite in Iron-Graphite Alloys

pressing was effected in a 100 ton hydraulic press, sintering was
at 1130-1150°C for 90 min in a hydrogen atmosphere. After sinter-
ing the hardness was 120-162 HB for a 10-12% porosity, the strength
was 25-31 kg/mm², the material contained 1.57%C (of which 1.09%
was bonded) and 9.6% Cu. The structure contained 70-80% pearlite,
a fine network and individual inclusions of cementite and also of
ferrite. On the Amsler machine, for the specific pressures 25,
50, 100 and 150 kg/cm², the friction coefficient with lubrication
varied between 0.002 and 0.006. From the same material motor car
piston rings were produced and tested in runs totalling 30 000 km
at speeds of 60-80 km/hr. The wear of the piston rings and of the
cylinder walls per 1000 km run was respectively 4.51 to 4.67
microns, and 0.74-0.75 microns. This corresponds to the best
indices obtained for piston rings made of cast iron and was 2 to
3 times lower for the cylinder walls. After the tests the piston
rings proved satisfactory for further operation. Later, a large
experimental batch of guide bushes 63 mm long with an external dia
of 16 and an internal dia of 6 mm were produced for the inlet and

Card 2/ 4

870:X6
S/129/60/000/012/008/013
E073/E235

Investigation of Cementite in Iron-Graphite Alloys

exhaust valves of motor car engines. These were produced of powder
of the same iron with an addition of 2.5% copper powder and 1.5%
de-ashed graphite. Pressing from two sides was applied. The
residual porosity was 15 to 20% and sintering was effected at
1140-1150°C for a duration of 2 hours in a hydrogen atmosphere.
After sintering the bushes were impregnated with molten sulphur
and then annealed to obtain granular pearlite; a typical structure
contained primarily granular pearlite with inclusions of ferrite
and cementite (of which about 20% was considered admissible).
These bushes were tested on 6 differing motor cars and investigated
after runs totalling 25 000, 40 000 and 80 000 km respectively.
The results show that the cementite inclusions in the ferrite
reduce appreciably the rate of wear; an increased rate of wear was
detected in structures with high ferritic contents. Pearlitic
structures showed optimum wear but they were not identical in each
case. It was found that pearlite with a coarse cementite network
gave the best results. The following conclusions are arrived at:
(1) in evaluating the anti-friction properties of porous iron-
graphite sintered alloys it is necessary to distinguish the form

Card 3/4

87036

S/129/60/000/012/008/013
E073/E235

Investigation of Cementite in Iron-Graphite Alloys

in which the free cementite is contained in the structure. Cement-
ite distributed in the ferrite improves the anti-friction propert-
ies and permits higher specific loads and higher angular velocities.
(2) If structurally free cementite is present in quantities of 20
to 25%, the friction load can be increased to 200-300 kg/cm^2 sec.
(3) The data given in the paper indicate that the established views,
according to which cementite has a harmful influence regardless of
its form and distribution in the microstructure, are erroneous.
There are 2 figures and 1 table.

Card 4/4

87035

S/129/60/000/012/008/013

E073/E235

Investigation of Cementite in Iron-Graphite Alloys

in which the free cementite is contained in the structure. Cement-
ite distributed in the ferrite improves the anti-friction propert-
ies and permits higher specific loads and higher angular velocities.
(2) If structurally free cementite is present in quantities of 20
to 25%, the friction load can be increased to 200-300 kg/cm^2 sec.
(3) The data given in the paper indicate that the established views,
according to which cementite has a harmful influence regardless of
its form and distribution in the microstructure, are erroneous.
There are 2 figures and 1 table.

Card 4/4

LYASHCHINSKIY, B.J.; PONOMARENKO, Ye.P.

Investigating the process of crushing electrothermic ferroalloys
by an electric current. Izv. vys. uchab. zav.; chern. met. 8
no.9:86-91 '65. (MIRA 18:9)

1. Zaporozhskiy mashinostroitel'nyy institut.

LYASHCHINSKIY, B.I.; PONOMARENKO, Ye.P.; SERDYUK, V.Ye.; NAGORNYY, M.A.;
SAVCHENKO, I.P.

Automation of technological processes in the production of electrodes.
Mashinostroitel' no.8:10-11 Ag '64.
(MIRA 17:10)

NATAPOV, B.S. OL'SHANETSKIY, V.Ye.; PONOMARENKO, Ye.P.

Effect of alloying elements on the pattern of secondary precipi-
tion in heat resistant nickel-base alloys. Metalloved. i term.
obr.met. no.1:12-15 Ja '65. (MIRA 18:3)

1. Zaporozhskiy mashinostroitel'nyy institut.

PONOMARENKO, Ye.P.

Diffusion of atoms of copper, aluminum, and carbon in the joint
zone of a steel - bronze bimetal. Izv.vys.ucheb.zav.; chern. met.
8 no.4:174-182 '65.   (MIRA 18:4)

1. Zaporozhskiy mashinostroitel'nyy institut.

PONOMARENKO, Ye. P.; VASILENKO, G. I.

Nonuniform carbon distribution and form of the separation of cementite in transition layers of the steel-bronze diffusion couple. Izv. vys. ucheb. zav.; chern. met. 7 no.6:117-124 '64.

(MIRA 17:7)

1. Zaporozhskiy mashinostroitel'nyy institut.

POPOV, V.S.; PONOMARENKO, Ye.P.

Technology of manufacturing bimetal inserts. Lit.proizv. no.3:37-38
Mr '62..   (MIRA 15:3)
            (Laminated metals)   (Bronze)

POPOV, V.S., kand.tekhn.nauk; PONOMARENKO, Ye.P., inzh.; LYASHCHINSKIY,
B.I., inzh.; NEMZER, V.T., inzh.; VOKSHIN, I.I., inzh.

Replacing bronze by bimetal inserts in rolling mill spindles. Stal'
22 no.3:255-256 Mr '62.   (MIRA 15:3)

1. Zaporozhskiy mashinostroitel'nyy institut i zavod "Dneprospetsstal'".
        (Rolling mills--Equipment and supplies)

L 31128-65   EWT(m)/EWA(d)/EWP(t)/EWP(b)   Pad   IJP(c)   JD/EW/JG

ACCESSION NR: AP5002940   S/0129/65/000/001/0012/0015

AUTHOR: Natapov, B. S.; Ol'shanevskiy, V. Ye.; Ponomarenko, Ye. P.

TITLE: Influence of the alloying elements on the shape of secondary formations in nickel-based heat resistant alloys

SOURCE: Metallovedenlye i termicheskaya obrabotka metallov, no. 1, 1965, 12-15

TOPIC TAGS: nickel alloy, secondary formation, heat resistant alloy, excessive phase, matrix grain, alloy additive, alloying element, alloy mechanical property

ABSTRACT: To improve the mechanical properties and resistance of heat-resistant alloys, it is important to consider the formation of excess phase at the matrix grain boundary. The different shapes of these formations (thin films, continuous or interrupted

Card 1/2'   x[Misch metal]   ?

L 31128-65

ACCESSION NR: AP5002940   2

discussed in detail. The conclusion is that the introduction into a refractory nickel alloy of small quantities of B, Zr and mixed metal results in such a distribution of the excess phase in small spheroidal particles that it enhances the strength of intercrystalline areas

of the alloy, thereby improving the operational reliability of the parts. There

has: 1 figure, 3 formulas, and 2 tables.

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut (Zaporozh'ye machine-
/building institute)

SUBMITTED: 00   ENCL: 00   SUB CODE: MM

NO REF SOV: 006   OTHER: 003

Card 2/2

LYASHCHINSKIY, B.I.; PONOMARENKO, Ye.P.; GESELEV, A.M.; SERDYUK, V.Ye.

Improved magnetic starters. Energ. i elektrotekh. prom.
no.3:68-69 Jl-S '62.   (MIRA 18:11)

1. Zaporozhskiy mashinostroitel'nyy institut imeni Chubarya (for
Lyashchinskiy, Ponomarenko). 2. Zaporozhskiy sovet narodnogo
khozyaystva (for Geselev). 3. Dneprovskiy mekhanicheskiy zavod
(for Serdyuk).

PONOMARENKO, Ye.P., inzh.

Carbon migration in the area of bonding of a steel-
bronze bimetal. Lit. proizv. no.11:32-35 N '65.

(MIRA 18:12)

PONOMARENKO, Yu.A.

Convergence of multiple Fourier series almost everywhere.
Dop. AN URSR no.10:1284-1286 '64.   (MIRA 17:12)

1. Dnepropetrovskiy gornyy institut. Predstavleno akademikom
AN UkrSSR Yu.A. Mitropol'skim [Mytropol's'kyi, IU.O.].

L 29578-66   EWT(1)   GW

ACC NR: AP6018912   SOURCE CODE: UR/0203/66/006/003/0417/0423

AUTHOR: Korchak, A. A.; Ponomarenko, Yu. B.

ORG: Institute of Terrestrial Magnetism, Ionosphere, and Propagation of Radio Waves, AN SSSR (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR)

TITLE: Compton effect on relativistic electrons in the solar atmosphere

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 3, 1966, 417-423

TOPIC TAGS: x radiation, γ ray, Compton effect, photon, relativistic electron, isotropic distribution solar flare

ABSTRACT: Suitable formulas and spectral intensity of x-radiation and γ-rays are developed for the case when these radiations are generated during Compton dispersion of thermal photons on relativistic electrons in the solar atmosphere and in cosmic conditions. Formulas for the Compton cross section and for the energy of scattered thermal photons on relativistic electrons are developed for two cases: isotropic distribution and radial propagation. In the solar atmosphere the Compton radiation is higher than the thermal radiation in the corona. The energy integral depends upon the angles of photon impulses before and after scattering. After integration the exponential energy function changes slowly for relativistic electrons. The concentration of these electrons is computed and represented graphically in the original article. The spectral power of radiation increases linearly with low energy,

Card 1/2   UDC: 523.72

L 29578-66

ACC NR: AP6018912   /

and it increases exponentially with high energy. This result relates to the
isotropic distribution occurring with a solar flare in the low chromosphere. All
photons move in a radial direction from the sun when the radiative source is in the
corona. When the scattered photon moves in the same direction as the primary photon
without dispersion, the energy of primary photons does not change. The authors
express their appreciation to S. I. Syrovatskiy. Orig. art. has: 1 figure and
30 formulas.   [EG]

SUB CODE: 04/ SUBM DATE: 16Mar65/ ORIG REF: 009/ OTH REF: 006/ ATD PRESS:
                                                                         5014

Card   2/2   CU

NEDOSPASOV, A.V.; PONOMARENKO, Yu.B.

Stability of the equilibrium state of a positive column of a gas
discharge. Teplofiz. vys. temp. 3 no.1:17-22 Ja-F '65.
(MIRA 18:4)

1. Moskovskiy fiziko-tekhnicheskiy institut.

PONOMARENKO, Yu.B. (Moskva)

Rigid conditions of development of steady-state motions in
hydrodynamics. Prikl. mat. i mekh. 29 no.2:309-321 Mr-Ap '65.
(MIRA 18:6)

ACCESSION NR: AP4043289

S/0040/64/028/004/0688/0698

AUTHOR: Ponomarenko, Yu. B. (Moscow)

TITLE: Concerning one kind of stationary motion in hydrodynamics

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 4, 1964, 688-698

TOPIC TAGS: stationary hydrodynamic motion, unstable hydrodynamic motion, stationary wave, wave interaction, hydrodynamic fluctuations

ABSTRACT: The characteristics are found of a stationary wave which is produced in an unstable system described by onedimensional hydrodynamic equations, and it is shown that the amplitude of the n-th harmonics is proportional to $(\lambda - \lambda_*)^{\frac{1}{2}n}$ at a small supercritical $\lambda - \lambda_*$. The equilibrium equation in hydrodynamics depends on external parameters. If the parameters reach critical values, the equilibrium solution becomes unstable. The nonlinear effects in the unstable system caused by the growing waves with different wave numbers will limit the increase of fluctuations, and the system will become stable. The paper considers the case when the spectrum consists of one wave with a definite frequency, such as the stratifications in a gas discharge, or the diffuse oscillations in a strong magnetic field.

Card— 1/2

ACCESSION NR: AP4043289

The experiment shows that the stationary state corresponds to this solution. The author is grateful to A. A. Vedenov for supervision and M. A. Leontovich for a discussion. Orig. art. has: 3 figures and 48 equations.

ASSOCIATION: None

SUBMITTED: 17Sep63   ENCL: 00

SUB CODE: ME   NO REF SOV: 005   OTHER: 002

Card 2/2

L 16003-66   EPF(n)-2/EWT(1)/ETC(f)/EWG(m)   IJP(c)   GG/AT

ACC NR: AP6004906

SOURCE CODE: UR/0251/65/040/001/0047/0053

AUTHOR: Suramlishvili, G. I.; Ponomarenko, Yu. B.

ORG: Institute of Cybernetics, Academy of Sciences Georgian SSR (Institut kiberne-tiki Akademii nauk gruzinskoy SSR); Institite of Terrestrial Magnetism and Radio wave propagation, AN SSSR(Institut zemnogo magnetizma ionogery i rasprostraneniya radiovoln, akademii nauk SSSR)

TITLE: Anamalous absorption of the energy of an electromagnetic field in a plasma

SOURCE: AN GruzSSR. Soobshcheniya, v. 40, no. 1, 1965, 47-53

TOPIC TAGS: electromagnetic wave absorption, electromagnetic field, hydrodynamics, plasma physics

ABSTRACT: The authors consider the effect of anomalous absorption of the energy of an electromagnetic wave which is perpendicularly incident to the surface $z = 0$ of a semi-infinite plasma. An expression is given for the amplitude of the wave inside the plasma in terms of the amplitude of the incident wave. The dispersion equation for potential perturbations of the stationary state is analyzed for the case where electrons are in motion with a given vector with respect to ions. The consideration is limited to the case of cold ions and motion of the ions in the wave field is

Card 1/2

Card 2/2

L 16003-66
ACC NR: AP6004906

disregarded. The hydrodynamic oscillations described by this analytical function
are discussed. Expressions are derived for critical conditions and instability.
The limits of applicability for the proposed model of energy absorption are analyzed.
Orig. art. has: 3 figures, 16 formulas.

SUB CODE: 20/ SUBM DATE: 03Jan65/ ORIG REF: 004/ OTH REF: 002

Card 2/2

VEDENOV, A.A.; PONOMARENKO, Yu.B.

Appearance of turbulence. Zhur.eksp.i teor.fiz. 46 no.6:2247-2250 Je '64.

1. Moskovskiy fiziko-tekhnicheskiy institut.

(MIRA 17:10)

AUTHOR: Ponomarenko, Yu. B.

TITLE: Excitation of ion-acoustic waves and heating of electrons in
              a plasma by an external electric field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
              no. 4, 1963, 1289 - 1297

TEXT: The author considers a plasma with cold ions placed in a strong con-
stant magnetic field and in a strong alternating electric field $E = E_0 \cos \omega t$,
lying parallel to each other. Then ion-acoustic waves are excited, in the
plasma, propagated with the phase velocity u: $u_{ti} < u < u_0$, where $u_{ti} = \sqrt{T_i/M}$
is the velocity of the thermal ions and $u_0 = \sqrt{T/M}$ is the velocity of the
ionic sound. For the sake of simplicity $T_i = 0$ is assumed, and heavy-ion
diffusion owing to the action of the waves is neglected; T is the electron
temperature. The mechanism of electron heating without collisions is dis-
cussed. It is shown that with the distribution function $f(v)$ for $\tau \to \infty$

Card 1/3

Excitation of ion-acoustic waves...

$$f_\infty = \frac{1}{2V_0} \int\limits_{-V_0}^{V_0} f_0 \, dv.$$

and the characteristic time

$$t_D \sim V_0^2/D \sim V_0^2/\omega u_0^2.$$

the electron temperature rises by

$$\Delta T = \int\limits_{-V_0}^{V_0} \frac{mv^2}{2} [f_\infty - f_0] \, dv$$

owing to the work done by the electric field. $V = V_0 \sin \omega t$, $V_0 = eE_0/m\omega$; V is the velocity of the ion gas at the instant t, V_0 the electron oscillation amplitude, $D = u_0^2 \omega/\pi = \omega T/\pi M$. The heating is due to the flattening of the electron distribution curve arising as follows: the electromagnetic field applied accelerates the electrons with respect to the ions; ion-acoustic

Card 2/3

Excitation of ion-acoustic waves...   S/056/63/044/004/024/044
B102/B186

waves which tend to smoothen the electron distribution function, are then
excited and since the E-field is periodic this process is repeated, and
finally the distribution function has a plateau at velocities twice as high
as those, acquired by the electrons in an external field. There are 5 fig-
ures.

SUBMITTED: October 24, 1962

Card 3/3

PONOMARENKO, Yu.F.; ROGOV, A.Ya.; SAVIN, I.F., inzh., retsenzent;
TUCHKOVA, L.K., inzh., red.

[Radial-flow piston high-torque hydraulic engines] Radial'no-
porshnevye vysokomomentnye gidromotory. Moskva, Mashino-
stroenie, 1964. 234 p.   (MIRA 17:12)

MAKSIMOV, V. A.; KOSTYLEV, A. D.; GURKOV, K. S.; VOLOD'KO, K. P.;
    YUSHCHENKO, A. I.; SEDYSHEV, V. F.; KOLESNIKOV, A. T. YAGODIN, A. I.;
    PONOMARENKO, Yu. F.; FOLKOV, A. N.; BELAK, N. A.

BPM-1 vibrating drill and loader. Gor. zhur. no.10:53-56
0 '62.

(MIRA 15:10)

(Mining machinery)

PONOMARENKO, Yu. F., kand. tekhn. nauk

Study of the equilibrium of the operation of radial piston, high-moment, hydraulic engines. Mekh. i avtom. v gornoi prom. no.2:202-227 '62.
(MIRA 16:1)

(Mining machinery—Hydraulic drive)

PONOMARENKO, Yu.F., kand.tekhn.nauk

Kinematics and dynamics of mine hoists with three-dimensional
hydraulic transmissions. Nauch.soob.Inst.gor.dela 7:114-121
'61.

(Mine hoisting)   (MIRA 15:1)

KOVAL', Petr Vasil'yevich; AL'SHITS, Ya.I., doktor tekhn. nauk,
        retsenzent; BORUMENSKIY, A.G., kand. tekhn. nauk,
        retsenzent; PONOMORENKO, Yu.F., kand. tekhn. nauk, otv.
        red.; BELOV, V.S., red.izd-va; LAVRENT'YEVA, L.G., tekhn.
        red.

        [Hydraulic drive of mining machinery] Gidroprivod gornykh
        mashin. Moskva, Izd-vo "Nedra," 1964. 203 p.
                                                (MIRA 17:3)

DOKUKIN, Aleksandr Viktorovich, laureat Gosudarstvennoy premii,
zasl. deyatel' nauki i tekhniki RSFSR, prof., doktor
tekhn. nauk; BERMAN, Valerian Mikhaylovich, kand.
tekhn. nauk; PONOMARENKO, Yuriy Filippovich, kand.
tekhn. nauk; KUSOV, Yevgeniy Fedorovich, kand. tekhn.
nauk; KOVAL', Yuriy Viktorovich, inzh.; KASHTANOV,
Leonid Nikolayevich, kand. tekhn. nauk; ABRAMOV, V.I.,
ved. red.

[Centrifugal and displacement hydraulic transmissions
and the prospects for their use in the mining industry]
TSentrobezhnye i ob"emnye gidroperedachi i perspektivy
ikh primeneniia v gornoi promyshlennosti. [By] A.V.Dokukin
i dr. Moskva, Nedra, 1964. 369 p.   (MIRA 18:2)

MAKSIMOV, V.A., inzh.; ORLOV, V.G., gornyy inzh.; KOSTYLEV, A.D., kand. tekhn. nauk; GURKOV, K.S., kand. tekhn. nauk; KREYMER, V.I., inzh.; BELAN, N.A., inzh.; PONOMARENKO, Yu.F., kand. tekhn. nauk

Industrial testing of the BPM-1 boring and loading machine. Ugol' 40 no.2:43-46 F '65.
(MIRA 18:4)

1. Aleksandrovskiy mashinostroitel'nyy zavod 'for Maksimov). 2. Saranovskiy khromitovyy rudnik Zapadno-Ural'skogo soveta narodnogo khozyaystva (for Orlov). 3. Institut gornogo dela Sibirskogo otdeleniya AN SSSR (for Kostylev, Gurkov, Kreymer). 4. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Belan). 5. Institut gornogo dela imeni A.A.Skochinskogo (for Ponomarenko).

BEZOBRAZOV, S.V.; KADARMETOV, Kh.N.; CHAROSHNIKOVA, G.V.; KRICHEVETS, R.B.;
    POMMARENKO, Yu.G.; TULIN, N.A.; POZDEYEV, N.P.; SERGEYEV, A.B.

Vacuum treatment of liquid ferrochromium. Stal' 25 no.8;820-
823 S '65.   (MIRA 18:9)

1. Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii i
Chelyabinskiy metallurgicheskiy zavod.

L 3992-66   EPA(s)-2/EWT(m)/EPF(n)-2/EWP(t)/EWP(b)   IJP(c)   JD/WW/JG

ACC NR: AP5022354   UR/0133/65/000/009/0820/0823
                                            669.168:621.365

AUTHOR: Bezobrazov, S. V.; Kadarmetov, Kh. N.; Charushnikova, G. V.; Krichevets, R. B.; Ponomarenko, Yu. G.; Tulin, N. A.; Pozdeyev, N. P.; Sergeyev, A. B.

TITLE: Vacuum treatment of liquid ferrochromium

SOURCE: Stal', no. 9, 1965, 820-823

TOPIC TAGS: ferrochrome, low carbon ferrochrome, liquid ferrochrome, ferrochrome decarburization, vacuum decarburization

ABSTRACT: To develop a technique for industrial-scale production of low-carbon ferrochromium, the Chelyabinsk Scientific Research Institute of Metallurgy together with the Chelyabinsk Metallurgical Plant conducted (1960-1964) a series of laboratory and semi-industrial scale experiments on decarburization of liquid ferrochromium in a vacuum induction furnace. The experimental results showed that vacuum treatment of a 400-kg heat of liquid ferrochromium in an induction furnace in a vacuum of 0.6—2.0 mm Hg (80—270 n/m^2) at 1670—1700C reduced the carbon content of the alloy from 0.05—0.07 to 0.01—0.02% in 1 hr, and even lower with further treatment. The chromium content of the alloy was practically unchanged, and the loss of ferro-chromium did not exceed 3%. The power consumption for vacuum treatment was about 500 kwh per ton of liquid ferrochromium, and the carbon oxidation rate was 0.0006 to 0.0009% C/min. In industrial-scale production, liquid ferrochromium can be poured into a ladle from which, after slag removal, the metal is poured into the crucible

Card 1/2

L 3992-66

ACC NR: AP5022354

of an induction furnace. The air is then evacuated from the furnace and after treatment the degassed metal is cast in flat ingots in air or in vacuum. To speed up the treatment, the crucible preferably should be of large diameter but comparatively shallow, and the content of carbon and phosphorus in the initial alloy should not exceed 0.07—0.09 and 0.03%, respectively. Orig. art. has: 1 figure and 1 table.

[MS]

ASSOCIATION: Chelyabinskiy n.-i. institut metallurgii (Chelyabinsk Scientific Research Institute of Metallurgy); Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant)

SUBMITTED: 00   ENCL: 00   SUB CODE: MM,IE

NO REF SOV: 011   OTHER: 000   ATD PRESS: 4119

Card 2/2

ABRAMENKO, T.F., inzh.; PONOMARENKO, Yu.J.

Mechanized rock piling. Mekh. i avtom. proizv. 19 no.9:
5-6 S '65.   (MIRA 18:9)

PONOMARENKO, Yu.V., inzh.

Concerning the design of cyclones and separators for pulverized coal preparation systems. Elek. sta. 35 no.9:92 S '64.   (MIRA 18:1)

KISEL'GOF, M.L., kand.tekhn.nauk; PONOMARENKO, Yu.V., inzh.

Aerodynamic testing of ejector burners. Teploenergetika 8 no.1:
22-29 Ja '61.   (MIRA 14:4)

1. Vsesoyuznyy teplotekhnicheskiy institut.
        (Furnaces--Testing)

PONOMARENKO, Yu. V.

PHASE I BOOK EXPLOITATION   SOV/3528

Moscow. Dom nauchno-tekhnicheskoy propagandy

Primeneniye ul'trazvuka v promyshlennosti; sbornik statey (Industrial Use of Ultrasound; Collection of Articles) Moscow, Mashgiz, 1959. 301 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): V.F. Nozdrev, Doctor of Physical and Mathematical Sciences, Professor; Ed. (Inside book): G.F. Kochetova, Engineer; Tech. Ed.: V.D. El'kind; Managing Ed. for Literature on Machinery and Instrument Manufacturing (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for engineers and technicians engaged in the application of ultrasonics in machinery manufacture and in other branches of industry.

COVERAGE: This is a collection of papers read at the first all-Union conference on the use of ultrasonics in industry. Attention is focused mainly on the description of ultrasonic equipment and on the use of ultrasound for the machining of hard materials and for flaw detection. The effect of ultrasound on metal-crystalla-tion processes is also discussed. No personalities are mentioned. References accompany many of the papers.

Grekov, N.A. Methods of Industrial Quality Control of Metal for Turbogenerator Rotor Forgings ("Elektrosila" Plant imeni S.M. Kirov)   267

Ponomarenko, Yu.V., Engineer. Ultrasonic Generators Developed at the Gor'kiy Avtozavod (Gor'kiy Motor-Vehicle Plant)   274

Olshanskiy, N.A., Candidate of Technical Sciences; and A.V. Mordvintseva, Candidate of Technical Sciences. Applications of Ultrasound in Welding   287

86168

26. 2/60

26. 2130

S/096/61/000/001/002/014
E194/E184

AUTHORS: Kisel'gof, M.L., Candidate of Technical Sciences, and
Ponomarenko, Yu.V., Engineer

TITLE: Aerodynamic Testing of Ejector Burners

PERIODICAL: Teploenergetika, 1961, No. 1, pp. 22-29

TEXT: When coal is very wet air drying is not efficient
enough to ensure reliable operation of shaft-mill furnaces.
Accordingly, gas drying has been used in conjunction with shaft-
mills. The general arrangement of such a furnace is shown in
Fig.1. The fuel is first dried by gas, then milled and passed
through a separator into the furnace. The resistance of the fuel
duct usually exceeds the head developed by the mill and, therefore,
an ejector burner is used to create an additional head to drive the
fuel-gas-air mixture through the system. The present article
gives results of aerodynamic tests on ejector burners of German
manufacture having horizontal nozzles (Fig.2) and also of burners
developed in the Vsesoyuznyy teplotekhnicheskyy institut (All-
Union Institute of Heat Engineering) which are basically of the
ejector type. T.I. Andguladze of the TKZ (Taganrog Boiler Works)

Card 1/6

86468

S/096/61/000/001/002/014
E194/E184

Aerodynamic Testing of Ejector Burners

participated in this work. The ejector burners were tested on a specially constructed rig. The material ejected was air from the boiler house at a temperature of 25-40 °C; the air used for ejection was derived from the boiler air heater and was at a temperature of 160-170 °C at pressures up to 200 mm water. The models of the ejector burners had flow parts of approximately full-scale dimensions. The measurement and test procedures are described and the formula used to calculate the ejector efficiency is given (Eq. 1). Test results are then given on a burner manufactured by the firm Steinmüller, a diagram of which is shown. Hot air from the air heater passes through four nozzles and issues from slots at speeds of 70-90 m/sec, setting up before the burners a suction of up to 40 mm water. The model was tested to determine its optimum characteristics using various slot sizes. Experimental curves of the ejector burner characteristics are plotted in Fig. 3a. Even under the best conditions the efficiency of ejection is only 18%, mainly because the ejector design is inadequate. The sources of the various losses are discussed.

Card 2/6

S/096/61/000/001/002/014
E194/E184

Aerodynamic Testing of Ejector Burners

Most of the loss arises from the complicated air flow arrangements
that are used. Tests on the burner type ВТИ-1 (VTI-1) of the
All-Union Institute of Heat Engineering are then described. The
special feature of this burner is that in order to increase the
efficiency of ejection the slot ejectors are built up of nozzles
and mixing chambers arranged on a single axis, the ejectors are
installed vertically in the furnace embrasure to facilitate
delivery of the fuel air mixture to them. Three variants of VTI
burners were tested; type VTI-1 with two parallel ejectors is
illustrated in Fig.4. Tests were made to determine the best
distance between nozzle and mixing chamber and this was found to
be 155 mm. The characteristics of the burner for this distance
are plotted in Fig.3 and it is found that in some sections the
efficiency is up to 21.5% but in others it is much lower. The
reasons why the characteristics are so unfavourable are discussed.
The velocity and temperature curves plotted for various sections
of the burners show that the speed of the ejected air before the
nozzles and also of the hot air at inlet to the nozzles varies

Card 3/6

86466

S/096/61/000/001/002/014
E194/E184

Aerodynamic Testing of Ejector Burners

only slightly (Fig. 5a). At exit from the nozzles the speed of the hot air is very irregular. This results from changes in the direction of flow on discharge from the nozzles resulting from their particular design. Tests on burner type VTI-2 are then discussed; this type was designed to avoid the disadvantages of type VTI-1. The new model has two vertical ejectors installed at an angle of 6° to one another. Accordingly, the section of the ejected air channels was increased by a factor of 3.5 and the speed in them reduced to 4.5 m/sec. Guide barriers were installed in the burner. The maximum efficiency of ejection at sections I — I and II — II was 28.6 and 27.5%. The distribution of speed and temperature was more uniform than in the VTI-1 burner. The inlet resistance factor to the nozzle of the VTI-2 burner was ten times less than in the Steinmüller burner. Burner VTI-3 was developed for the case when the hot-air nozzles are installed in the gravity shaft as shown in Fig. 6ð. This construction was not quite so efficient as VTI-2. Comparison of test results shows that all variants of the VTI burner are better than the Steinmuller

Card 4/5

S/096/61/000/001/002/014
E194/E184

Aerodynamic Testing of Ejector Burners

burner. Characteristics of the best designs of burner are given in Table 1. It is shown that other things being equal burner VTI-2 is the best and it is recommended for regular use. The use of burner VTI-2 instead of the Steinmüller burner reduces the demand for air under pressure, and from the comparative results for burners with horizontal and vertical nozzles given in Table 2 it will be seen that to set up an additional head of 35 mm of water before the burners the burner type VTI-2 required a hot air pressure before the nozzle of 124 mm water, whilst the Steinmuller burners require 209 mm of water. The corrections that must be applied in practice are discussed, and characteristics of the VTI-2 ejector burner under various conditions are plotted in Fig.7. In large burners, in order to reduce the length of the flame it is advisable to divide it into two halves as shown in Fig.8a; tertiary air may be delivered to the furnace through the slot between the nozzles or through a special slot above and below the burners. The importance of having a sufficiently high class of finish on the outlet edges of the nozzles is mentioned, and it is

Card 5/6

S/096/61/000/001/002/014
E194/E184

Aerodynamic Testing of Ejector Burners

particularly necessary to observe the designed dimensions and
positioning of the nozzles during erection in order to obtain
the required efficiency.
There are 8 figures and 2 tables.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut
                (All-Union Institute of Heat Engineering)

Card 6/6

PONOMARENKO, Ya.D.

Azalea is a valuable essential oil-bearing wild plant. Masl.-zhir. prom. 25 no.7:41 '59.   (MIRA 12:12)

1.Neftegorskiy efiromaslichnyy sovkhoz-zavod.
        (Azalea) (Essences and essential oils)

PONOMARENKO, Yu.A. [Ponomarenko, IU.O.]

Linear methods of summing double Fourier series and the best approxima-
tions of continuous functions of two variables. Dop. AN URSR no.1:38-
41 '64.
(MIRA 17:4)

1. Dnepropetrovskiy gornyy institut. Predstavleno akademikom AN UkrSSR
Yu.A.Mitropol'skim [Mytropol's'kyi, IU.O.].

PONOMARENKO, Yu.A.

Some criteria of absolute Cesaro summability of multiple Fourier
series. Dokl. AN SSSR 152 no.6:1305-1307 O '63.   (MIRA 16:11)

1. Dnepropetrovskiy gornyy institut im. Artema. Predstavleno
akademikom S.N. Bernshteynom.

PONOMARENKO, Yu. A.

SEMENOV, A.S.; MORDUKHAYEV, G.A.: PONOMARENKO, Yu.A.

Coal weighing telemeters. Izm.tekh. no.6:82-83 N-D '56.
(MIRA 10:1)

(Weighing-machines)

ACCESSION NR: AP4025926   S/0056/64/046/003/0926/0928

AUTHORS: Nedospasov, A. V.; Ponomarenko, Yu. B.

TITLE: Concerning the amplitude and form of strata

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 46,
no. 3, 1964, 926-928

TOPIC TAGS: plasma, positive column, plasma strata, positive column
strata, confined plasma, plasma equilibrium, growing plasma waves,
stationary plasma waves, sinusoidal strata, relaxation strata,
negative strata, critical point, critical surface

ABSTRACT: The range of plasma parameters in which strata of a posi-
tive column can exist is considered qualitatively and is represented
by a closed surface in the space of the parameters R, I, and p (R --
tube radius, I -- discharge current, p -- pressure). When any of
the parameters passes through this boundary the plasma equilibrium

Card   1/2

ACCESSION NR: AP4025926

is disturbed and the interaction between the growing waves with dif-
ferent wave numbers results in stationary waves which constitute
the strata. Conditions under which sinusoidal, relaxation, and
negative strata are produced are analyzed from the point of view of
the variations of the parameters on going through the critical points
in various regions of the critical surface. The need for further ex-
perimental research is pointed out. "The authors are grateful to
A. A. Vedenov and M. A. Leontovich for discussions." Orig. art. has:
2 figures and 4 formulas.

ASSOCIATION: Moskovskiy fiziko-tekhnicheskiy institut (Moscow
Physicotechnical Institute)

SUBMITTED: 01Aug63   DATE ACQ: 16Apr64   ENCL: 00

SUB CODE: PH   NO REF SOV: 006   OTHER: 007

Card 2/2

PONOMAREXNO, Yu.B.

Excitation of ionic-sonic waves and the heating of electons in a plasma
by an external electric field. Zhur. eksp. i teor. fiz. 44 no.4:1289-1297
Ap '63.   (MIRA 16:4)
        (Plasma (Ionized gases))   (Electric fields)

PONOMARENKO, Yu.F., kand. tekhn. nauk

Study of the profile of the stator of a radial-piston, high-moment hydraulic motor. Nauch. soob. IGD 11:153-165 '61.
(MIRA 16:4)

(Hydraulic motors)

PONOMARENKO, Yu.F.

TSETNARSKIY, I.A., inzh.; PONOMARENKO, Yu.F., kand.tekhn.nauk.

Testing single-stage turbine transformers on stands. Vest.mash.
37 no.12:60-63 D '57.   (MIRA 10:12)
                    (Hydraulic machinery)

SOV/122-59-4-9/28

AUTHORS: Ponomarenko, Yu.F., Candidate of Technical Sciences, and
            Koval', Yu.V., Engineer

TITLE: Determination of the Axial Forces in Fluid Couplings
            (Opredeleniye osevykh sil v turbomuftakh)

ABSTRACT: Bearing failures in hydraulic couplings have led the
            Vsesoyuznyy Nauchno-Issledovatel'skiy Ugol'nyy Institut
            (VUGI) (All-Union Scientific Research Institute for Coal)
            to examine the axial forces in different types of fluid
            couplings. The test rig (Fig 1) consists of a shaft on
            roller bearings with the driven half of the fluid
            coupling keyed at one end whilst the driving half is
            rigidly attached to the driving motor. The internal
            bearings between the two halves are omitted. At the
            other end the shaft drives the dynamometric generator,
            through a coupling, permitting free axial displacement.
            Collars near the shaft centre transmit the axial force
            to a lever, whose opposite end presses against a ring
            dynamometer. The driving d.c. motor has a swinging
Card 1/4   frame and a controllable speed from 100 to 1500 rpm.
            The dynamometer load consists of a d.c. generator with

SOV/122-59-4-9/28

Determination of the Axial Forces in Fluid Couplings

a swinging frame and separate excitation, whose armature
is connected to the generator of a motor-generator set.
The total voltage of both generators is applied to a load
resistance.   Tests were carried out at both directions
of power flow and both directions of rotation.   The
tests were evaluated on the basis of the theory developed
at the Leningradskiy Politekhnicheskiy Institut
(Leningrad Polytechnical Institute) reported by A.Ya.
Kochkarev and G.I. Basalayev, (Trudy LPI Nr 177,
Leningrad 1955). The total axial force is subdivided
into a component depending on the conditions of
circulation in the flow passages and another component
equal to the supply pressure multiplied by the
uncompensated (net) surface area of the coupling. The
first component is put equal to a factor depending on the
design and operating condition multiplied by the product
of the specific gravity of the working fluid, the square
of the rpm and the fourth power of the active coupling
diameter. The tests served for the evaluation of the
Card 2/4 axial force factor for a variety of coupling designs
(Fig 2) and in several important conditions of operation.

SOV/122-59-4-9/28

Determination of the Axial Forces in Fluid Couplings

Torque limiting couplings operate for any length of time solely at nominal slip and at full slip. In both cases similarity rules apply and computations with the axial force factor are valid. The simplest type of coupling (Fig 2a), a coupling with guide vanes (Fig 2b) and a coupling with an internal screen, have their torque and axial force factors plotted against the slip in Figs 3 and 4 for different percentages of filling. Torque limiting couplings with a supplementary space on the turbine wheel side (Fig 2d) have torque and axial force factors plotted in Fig 6. It is concluded that the axial forces at nominal slip (2-5%) can be neglected in bearing design. The main axial forces tend to draw the two wheels together. Separating forces are small and occur at small slips in some couplings. Substantial axial forces drawing the wheels together arise at slips exceeding 50% and particularly in opposite rotation. In this condition and the generator condition the axial force and torque factors indicate the qualities of the coupling. In torque limiting

Card 3/4

SOV/122-59-4-9/28

Determination of the Axial Forces in Fluid Couplings

        couplings, axial forces cannot be computed by the rules
        of similarity.   Bearings in such couplings should be
        designed for 100% slip conditions.
        There are 6 figures and 5 Soviet references.

Card 4/4

HERMAN, V.M.; PONOMARENKO, Yu.F.; KOVAL', Yu.V.

Use of safety hydraulic couplings. Ugol' 33 no.9:30-33 S '58.

(MIRA 12:1)

(Coal mining machinery--Safety appliances)
(Power transmission)

PONOMARENKO, Yu. F.

BEYLINA, TS.O., inzhener; BLAGONADEZHDIN, V.Ye., inzhener; BOGUSLAVSKIY,
P.Ye., kandidat tekhnicheskikh nauk; VORONKOV, I.M., professor,
GITINA, L.Ya., inzhener; GROMAN, M.B., inzhener; GOROKHOV, N.V.,
doktor tekhnicheskikh nauk [deceased]; DENISYUK, I.N., kandidat
tekhnicheskikh nauk; DOVZHIK, S.A., kandidat tekhnicheskikh nauk;
DUKEL'SKIY, M.P., professor, doktor khimicheskikh nauk [deceased];
DYKHOVICHNYY, A.I., professor; ZHITKOV, D.G., professor, doktor
tekhnicheskikh nauk; KOZLOVSKIY, N.S., inzhener; LAKHTIN, Yu.M.,
doktor tekhnicheskikh nauk; LEVENSON, L.B., professor, doktor tekhni-
cheskikh nauk [deceased]; LEVIN, B.Z., inzhener; LIPKAN, V.F., inzhe-
ner; MARTYNOV, M.V., kandidat tekhnicheskikh nauk; MOLEVA, T.I.,
inzhener; NOVIKOV, F.S., kandidat tekhnicheskikh nauk; OSETSKIY, V.M.,
kandidat tekhnicheskikh nauk; OSTROUMOV, G.A.; PONOMARENKO, Yu.F.,
kandidat tekhnicheskikh nauk; RAKOVSKIY, V.S., kandidat tekhnicheskikh
nauk; REGIRER, Z.L., inzhener; SOKOLOV, A.N., inzhener; SOSUNOV, G.I.,
kandidat tekhnicheskikh nauk; STEPANOV, V.N., professor; SHEMAKHANOV,
M.M., kandidat tekhnicheskikh nauk; EL'KIND, I.A., inzhener; YANUSHE-
VICH, L.V., kandidat tekhnicheskikh nauk; BOKSHITSKIY, Ya.M., inzhe-
ner, redaktor; BULATOV, S.B., inzhener, redaktor; GASHINSKIY, A.G.,
inzhener, redaktor; GRIGRO'YEV, V.S., inzhener, redaktor; YEGURNOV,
G.P., kandidat tekhnicheskikh nauk, redaktor; ZHARKOV, D.V., dotsent,
redaktor; ZAKHAROV, Yu.G., kandidat tekhnicheskikh nauk, redaktor;
KAMINSKIY, V.S., kandidat tekhnicheskikh nauk, redaktor; KOMARKOV,
Ye.F., professor, redaktor; KOSTYLEV, B.N., inzhener, redaktor;
POVAROV, L.S., kandidat tekhnicheskikh nauk, redaktor; ULINICH, F.R.,
redaktor; KLORIK'YAN, S.Kh., otvetstvennyy redaktor; GLADILIN, L.V.,
redaktor;   (Continued on next card)

HEYLINA, TS.O. --- (continued)   Card 2.
    RUPPENEYT, K.V., redaktor; TERPIGOREV, A.M., glavnyy redaktor;
    BARABANOV, F.A., redaktor; BARANOV, A.I., redaktor; BUCHNEV, V.K.,
    redaktor; GRAFOV, L.Ye., redaktor; DOKUKIN, A.V., redaktor; ZADEMID-
    KO, A.N., redaktor; ZASYAD'KO, A.F., redaktor; KRASNIKOVSKIY, G.V.
    redaktor; LETOV, N.A., redaktor; DISHIN, G.L., redaktor; MAN'KOV-
    SKIY, G.I., redaktor; MEL'NIKOV, N.V., redaktor; ONIKA, D.G.,
    redaktor; OSTROVSKIY, S.B., redaktor; POKROVSKIY, N.M., redaktor;
    POLSTYANOY, G.N., redaktor; SKOCHINSKIY, A.A., redaktor; SONIN,
    S.D., rodaktor; SPIVAKOVSKIY, A.O., redaktor; STANCHENKO, I.K.,
    redaktor; SUDOPLATOV, A.P., redaktor; TOPCHIYEV, A.V., redaktor;
    TROYANSKIY, S.V., redaktor; SHEVYAKOV, L.D., redaktor; BYKHOV-
    SKAYA, S.N., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhniche-
    skiy redaktor; PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

    [Mining; an encuclopedic handbook] Gornoe delo; entsiklopedicheskii
    spravochnik. Glav.red. A.M. Terpigorev. Chleny glav.red. F.A. Bara-
    banov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po ugol'noi
    promysh]. Vol.1. [General engineering] Obshchie inzhenernye
    svedeniia. Redkollegiia toma S.Kh.Klorik'ian i dr. 1957. 760 p.
                    (Mining engineering)   (MLRA 10:10)

PONOMARENKO, Yu.V.

      Portable electric tools. Mashinostroitel' no.3:20-21 Mr '64.

                                                   (MIRA 17:4)

PONOMARENKO, Z.K.

Spore-pollen complexes of Lower Paleocene marine sediments in
the northern Ural Mountain region and in the central part of
the Turgay Depression. Dokl. AN SSSR 154 no. 3:596-599 Ja '64.
(MIRA 17:5)

1. Kazakhskiy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya. Predstavleno akademikom K.I.Satpayevym.

PONOMAREV,

AIZIKS; BRODSKIY; VIRABOV; VOSKRESENSKIY; GIDZHEU; DONCHAK; ZNAMENSKIY; KOSTINA; KARITSKAYA; KURNOSOV; PONOMAREV; YAROVITSKIY

Aleksei Aleksandrovich Kriukov. Vest. otorinolar. 12 no.2:79-80 Mr-Ap '50   (CLML 19:2)

1. Obituary.

PONOMAREV, A., general-polkovnik inzhenerno-tekhnicheskoy sluzhby;
POKROVSKIY, G., prof., doktor tekhnicheskoy sluzhby;
KUVAL'DIN, A., dots., kand. tekhnicheskikh nauk inzhener-
polkovnik; MOSTOVENKO, V., dots., kand. tekhnicheskikh nauk
inzhener-polkovnik; GONCHAROV, M., polkovnik; TARANTSOV, A.,
polkovnik; VASIL'YEV, N., polkovnik; GORDEYEV, N., kapitan 1
ranga; KOZIN, K., kapitan 1 ranga; ARKHIPOV, M., dots., kand.
tekhn. nauk inzhener-podpolkovnik; SEDOV, A., dots., kand.
tekhn. nauk, inzhener-podpolkovnik; MELIK-PASHAYEV, N., dots.,
kand. tekhn.nauk, inzhener-podpolkovnik; TIKHOMIROV, Yu., dots.,
kand. tekhn. nauk, inzhener-podpolkovnik; PARFENOV, V., kand.
tekhn. nauk, inzhener-podpolkovnik; GEORGIYEV, A., inzh.-pod-
polkovnik; KRUCHININ, V., inzh.-podpolkovnik; MEKONOSHIN, N.,
inzh.-podpolkovnik; RYKOV, S., inzh.-podpolkovnik; SURIKOV, B.,
inzh.-podpolkovnik; ZHUKOV, V., inzh.-mayor; NOVIKOV, M., inzh.-
mayor; SUSHKOV, Yu., inzh.-kapitan; ASTASHENKOV, P.T., inzh.-
podpolkovnik; VASIL'YEV, A.A., red.; KARYAKINA, M.S., tekhn.
red.

[New advances in military technology for youthful readers]Mo-
lodezhi o novom v voennoi tekhnike. Moskva, Izd-vo DOSAAF,
1961. 342 p.   (MIRA 15:2)
 (Rockets (Ordnance)) (Atomic weapons)
     (Electronics in military engineering)

PONOMAREV, A., inzh.

Composite crew of communist labor. Sel'. stroi. no.5:19 My '62.

(MIRA 15:7)

1. Trest Biysktselinstroy.
(Biysk--Construction industry)

PONOMAREV, A., general-polkovnik inzhenerno-tekhnicheskoy sluzhby

Progress of Soviet aviation. Starsh.-serzh. no.7:8 Jl '61.

(MIRA 14:9)

(Aeronautics)

PONOMAREV, A., Lt. Gen. Eng-Tech. Service

"Progress of Jet Aviation," from the book Modern Military Technology, 1956, page 75.

Translation 1114585

PONOMAREV, A., general-polkovnik inzhenerno-tekhnicheskoy sluzhby

Turbojet engines [as revealed by foreign press data]. Vest.
Vozd. Fl. no.12:64-68 D '61.   (MIRA 15:3)
                    (Airplanes--Turbojet engines)

AID P - 2201

Subject   :   USSR/Aerodynamics

Card 1/1   Pub. 135 - 2/18

Author   :   Ponomarev, A., Lt. Gen., Inst. of Tech. Ser.

Title   :   Postwar development of aviation engineering

Periodical   :   Vest. vozd. flota,   6,   9-16,   Je 1955

Abstract   :   The author is concerned mainly with jet propulsion and
                  high speed aircraft. He compares general characteristics
                  of various jet engines, such as ram jets, liquid-propel-
                  lant jets, turbo jets, turbo propeller jets, jet engines
                  with ducted fans, etc. The following are mentioned:
                  engine types VK-107, RD-10, RD-500 and aircraft types
                  MiG-9, YaK-15, YaK-23, La-15. Diagrams, graphs, tables.

Institution   :   None

Submitted   :   No date

207/7/210

PHASE I BOOK EXPLOITATION

Atomic energy v aviatsii i raketnoy tekhnike; sbornik statey
(Atomic Energy in Aviation and Rocket Engineering; Collection
of Articles) Moscow, Voyen. Izd-vo M-va Obor. SSSR, 1959. 500 p.
(Series: Nauchno-populyarnaya biblioteka) No. of copies printed
not given.

Ed. - Compiler: P.P. Astashenkov, Engineer, Lt.-Col; M.: Th.M.
Eder; Tech. Ed.: A.M. Gavrilova.

PURPOSE: This book is intended for officers of the Soviet Armed
Forces, members of DOSAAF, and the general reader interested in
the use of atomic energy and in the development of aviation and
rocket engineering.

COVERAGE: This collection of 46 articles, compiled by 20 Soviet
scientists and based chiefly on non-Soviet materials, discusses
various aspects of the use of atomic energy in rocketry and avia-
tion. The book surveys the development of atomic and their nuclear
tion.

Weapons and weapon carriers, lays down the principles of anti-
atomic defense, and evaluates the application of nuclear energy
in aviation and rocketry. Fuel and construction materials, as
well as actual physical and technological processes involved, are
treated briefly. Fundamentals of atomic warfare and combat tac-
tics are discussed at some length. The book is divided into four
parts, of which the last consists chiefly of anti-Western propa-
ganda. Section I is devoted to nuclear weapons and their use in
aviation. Section II is on anti-atomic defense, especially the
defense and decontamination of airfields and aircraft, and de-
fense against radiation. Section III is on the use of nuclear
energy in modern aircraft and rocket technology and on the
aircraft, including some speculations on space travel and on the
energy of the future. There are 126 figures and 35 non-Soviet
references (some in Russian Translation).

TABLE OF CONTENTS:

Card 7/9

PONOMAREV, A.

Increase the production of rock materials for building needs.
Rech. transp. 22 no.9:17-18 S '63.   (MIRA 16:10)

1. Nachal'nik gruzovogo otdela Volzhskogo ob'yedinennogo
rechnogo parokhodstva.

PONOMAREV, A., general-polkovnik inzhenerno-tekhnicheskoy sluzhby, doktor tekhn.nauk

Airplanes at the threshold of outer space. Av. i kosm. 48 no.9:28-32 S '65. (MIRA 18:8)

GORYAVIN, A.; PONOMAREV, A.

Every service station should have a trend for wheel alignment.
Avt.transp. 40 no.12:16-17 D '62.   (MIRA 15:12)
          (Service stations—Equipment and supplies)

L 45224-66   EWT(d)/EWT(m)/EWP(f)/T-2/EWP(h)   WE

ACC NR: AP6015008 (A) SOURCE CODE: UR/0209/66/000/005/0082/0087

AUTHOR: Ponomarev, A. (Colonel General ITS, Doctor of Technical Sciences)

ORG: none

TITLE: Jet engines of supersonic transport aircraft

SOURCE: Aviatsiya i kosmonavtika, no. 5, 1966, 82-87

TOPIC TAGS: turbojet engine, jet thrust, turboramjet engine, supersonic aircraft, transport aircraft

ABSTRACT: The author analyzes various jet engines of supersonic transport aircraft and discusses their preformance characteristics based on reports in the foreign press. The growth of takeoff thrust of turbojet and dual-flow turbojet engines is examined. Characteristics of turbojet engines at an altitude of 11 km at a speed of M = 2.2 are given. The relative parameter of the flying range of the turbojet, dual-flow turbojet, and turboramjet engines is described. The

Card 1/2

Card 2/2

PONOMAREV, A. A.

USSR/Ciology - Rye Plant Breeding

11 Feb 50

"Stages of First Year Plants of Wild and Cultivated Perennial Rye, "V. V. Skripchinskiy, A. A. Ponomarev

"Dok Ak Nauk SSSR" Vol LXX, No 5, pp 905-908

Discusses tabulated results of two tests, one made in 1940 on wild perennial ryes and the other in 1949 on new types of perennial ryes developed in past few years. Studied effect of length of vernalization period on percent of earing plants and days required for earing in both tests, and, in addition in first test checked number of days from planting until earing when different numbers of days are lengthened artificially by 500-W lamp from twilight to dawn. In second test, also tested comparative qualities of hybrids and parental ryes. Submitted 23 Nov 49 by Acad N. A. Maksimov.

165T5

PONOMAREV, A.A.; SKVORTSOV, I.M.; KHORKIN, A.A.

1-Azabicycles. Part 1: Hydroxymethylation of compounds of the 1,2-dihydrodipyrrole series. Zhur. ob. khim. 33 no.8:2687-2690 Ag '63.

(MIRA 16:11)

1. Saratovskiy gosudarstvennyy universitet imeni N.G. Chernyshevskogo.

SHALIMOV, M.G.; GOLIKOV, Ye.Ye.; PONOMAREV, A.A.

P.A. Azbukin; on his 80th birthday and the 55th anniversary of his theoretical and educational work. Elektrichestvo no.8:92-93 Ag '62.
(MIRA 15:7)
(Azbukin, Pavel Andreevich, 1882-)

PONOMAREV, A.A., inzh.; ALEKSANDROV, M.V., inzh.

Graphical method for mechanical design of electric lines.
Elek. sta. 33 no.5:57-60 My '62.   (MIRA 15:7)
                    (Electric lines--Overhead)

POL' NER, A. N.

"The immunological reactivity of the organism and its significance in specific prophylaxis."

report submitted at the 13th All-Union Congress of Hygienists, Epidemologists and Infectionists, 1959.

L 23259-66   EWT(d)/EWT(1)/EWT(m)/EWP(w)/EEC(k)-2/EWP(v)/T-2/EWP(k)/EWP(h)/EWA(h)/
ACC NR: AN6007529   (N)   SOURCE CODE: UR/9008/66/000/059/0006/0006
ETC(m)-6   IJP(c)   TT/WW/EM/GW

AUTHOR: Ponomarev, A. (Doctor of technical sciences, Colonel general of the engineer-
ing and technical service)

ORG: none

TITLE: Air transport of two oceans. Problems of space flights

SOURCE: Krasnaya zvezda, 12 Mar 66, p. 6, col. 1-7

TOPIC TAGS: transport aircraft, supersonic aircraft,
engineering, space flight, spacecraft design   aerospace

ABSTRACT: The article deals with general aspects of the problem of intercontinental
supersonic flights and to the so-called "aerospace" flights. Outer space is tenta-
tively divided by the author into circumterrestrial space (altitude 60—160 km),
near outer space (altitude 160—480 km), and remote outer space (altitude 800,000 to
900,000 km). General ideas are given of the future development of supersonic trans-
port aircraft and the aerospace planes which would be capable of taking off and land
like conventional aircraft. The author offers several designs of aerospace aircraft.
At the 26th International Aeronautics and Space Show in Paris (summer 1965), a model
was displayed of the West-German two-stage aerospace plane equipped with four liquid-
rocket engines. The takeoff weight of such an aerospace plane is rated to be 150 tons.
It takes off with the aid of a catapult or is launched from a carrier aircraft. A
model was also displayed of the French three-stage aerospace plane. Two schematic

Card 1/2

Card 2/2

L 23259-66   EWT(d)/EWT(l)/EWT(m)/EWP(w)/EEC(k)-2/EWP(v)/T-2/EWP(k)/EWP(h)/EWA(h)/
ACC NR: AN6007529   (N)   SOURCE CODE: UR/9008/66/000/059/0006/0006
ETC(m)-6   IJP(c)   TT/WW/EM/GW

AUTHOR: Ponomarev, A. (Doctor of technical sciences, Colonel general of the engineer-
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It takes off with the aid of a catapult or is launched from a carrier aircraft. A
model was also displayed of the French three-stage aerospace plane. Two schematic
Card 1/2

CA

m-Phenylenediamine as indicator in bacteriological technique. A. A. Ponomarev. *Lab. Prakt.* (U. S. S. R.) 1937, No. 10, 6 S.—m-C$_6$H$_4$(NH$_2$)$_2$ can be used for the biochem. diagnosis of typhus, and for the *analysis of water* and *food products.* The necessary conditions for the reaction are: the presence of nitrates (KNO$_3$, NaNO$_3$, NH$_4$NO$_3$, LiNO$_3$, Ca(NO$_3$)$_2$; sugar (glucose, lactose, sucrose, maltose, galactose, levulose) capable of being fermented by the microorganisms present; indicator (Cl salt of m-C$_6$H$_4$(NH$_2$)$_2$ several days old; microorganisms contg. oxyreductase; anaerobic process of the reaction.   W. R. Benn

A 5 B - 5 L A   METALLURGICAL LITERATURE CLASSIFICATION

BA

AII - 1

CA

Some polyene ketones of the furan series. A. A. Ponomarev, Z. V. Til, and V. V. Zelenkova (N. G. Chernyshev State Univ., Saratov). Zhur. Obshchei Khim. (J. Gen. Chem.) 20, 1085-91(1950).—Furan-based unsatd. aldehydes readily react with Me ketones and yield di-, tri-, and tetraene ketones. 2-Furanacrolein was prepd. by König's method (C.A. 20, 1235) in 72.5% yield when −3° reaction temp. and 3.5 hrs.' duration were used. Furylpentadienal was also made according to König, while 1-(2-furfurylidene)propane was prepd. from furfural and EtCHO according to D. Ivanov (C.A. 19, 1138). All following ketones were prepd. analogously by condensation of the above ketones with RCOMe in aq. alc. with 10% NaOH. A typical example: 4 g. 2-furanacrolein and 5.64 g. C₈H₁₇COMe in 25 ml. 70% EtOH with 4 ml. 10% NaOH gave in 24 hrs. 45% 1-(2-furyl)-1,3-tetradecadien-5-one, m. 63° (from EtOH)(2,4-dinitrophenylhydrazone, m. 85-6°). Other un satd. 1 - (2 - furyl)alkanones prepd. (m.p. of 2,4-dinitrophenylhydrazone in parentheses) included: 8,8 - dimethyl - 1,3,5 - nonatrien - 7 - one, m. 92°, (136-7°) in 51% yield; 9 - methyl - 1,3,5 - decatrien - 7 - one, m. 53°, (210°); 1,3 - hendecadien - 5 - one, m. 59-60° (124-5°); 1,3,5-tridecatrien-7-one, m. 78° (128 0°); 1,3,7-hexadecatrien-7-one, m. 91° (111-12°); 7-phenyl-1,3,5-heptatrien-7-one, m. 80-7° (181°), gives a green color with H₂SO₄; 5-p-tolyl-2-methyl-1,3-pentadien-5-one, m. 107-8° (170-1°), gives a red color with H₂SO₄ and concd. HCl; 7-p-tolyl-1,3,5-heptatrien-7-one, m. 119-20° (184-5°), gives a brown color with H₂SO₄; 7-phenyl-2-methyl-1,3,6-heptatrien-5-one, m. 90-101° (80°), violet in H₂SO₄, turning yellow on diln.; 9-phenyl-1,3,5,8-nonatetraen-7-one, m. 110-11° (176-7°), gives with H₂SO₄ a deep-red, with concd. HCl a blue-green color; 5-(2-pyrryl)methyl-1,3-pentadien-5-one, m. 156.5° (214°), red-brown in H₂SO₄, red in HCl, and red in Br-CHCl₃; 5-(2-pyrryl)methyl-1,3-pentadien-5-one, m. 171° (225-6°), red-brown in H₂SO₄, red in HCl, yellow in Br-CHCl₃; 7-(2-pyrryl)-1,3,5-heptatrien-7-one, m. 186° (208-10°), brown-red in H₂SO₄, red in HCl, deep red in Br-CHCl₃. The yields generally ranged from 70 to over 90%, with few cases in the 40-60% range.   G. M. Kosolapoff

CA

Apparatus for preparation of ketene. A. A. Ponomarev and Yu. B. Isaev (N. G. Chernyshevskii State Univ., Saratov). *Zhur. Priklad. Khim.* 23, 222–4 (1950); *J. Applied Chem. U.S.S.R.* 23, 229–30(1950) (Engl. translation).—The app. combines the best features of ketene lamps and furnace types. A vertical Cu pyrolysis pipe (electrically heated), with a steel jacket for heat protection, is provided at the top with a downward distn. condenser (for preliminary cooling of the Me₂CO) leading to a Y-adapter surmounted by a bulb condenser (for complete condensation of the Me₂CO), with an exit tube at the top for CH₂:CO take-off; the condensed matter is passed back into the boiling flask through a hydraulic seal (U-bend). The boiling flask is directly connected to the lower end of the pyrolysis tube. The best temp. is 690–710° (measured by a thermocouple), giving steady 70–8% yields (on decompd. Me₂CO). No catalyst filling is needed.   G. M. K.

PONOMAREV, A. A.

191T11

USSR/Chemistry - Heterocycles   Sep/Oct 51

"Catalytic Hydrogenation of Furane Derivatives and Its Significance in Organic Synthesis," A. A. Ponomarev, V. V. Zelenkova, Saratov

"Uspekh Khim" Vol XX, No 5, pp 589-620

Points out the significance of furane derivs (particularly hydrogenated products) as intermediate substances in industrial organic synthesis and reviews work on the subject, mainly on the basis of foreign references.

191T11